PRINTER RUSH
(PTO ASSISTANCE)

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[RUSH] **MESSAGE:** Claim set of 2-17-05 and spec amdt of 2-17-05 are illegible. Please provide clear copy.

Thank you

[XRUSH] **RESPONSE:**

INITIALS:

NOTE: This form will be included as part of the official USPTO record, with the Response document coded as XRUSH.

REV 10/04

Amendments to the Specification

Please replace the paragraph at page 9 line 7, with the following amended paragraph:

Figure 2 shows the first face 115 face of the first reactor plate 200, which forms Portion of the reaction chamber 119. The first reactor plate 200 is preferably Rectangular in shape and has two ports at each end thereof. At one end, a solution inlet 236 for and a coolant outlet 240 are provided. At the opposite end, a solution outlet 237 and a coolant inlet 241 are provided. The rim 250 and gasket 400 surrounds the coolant inlet 241 and coolant outlet 240 to prevent the coolant from entering the reaction chamber 119. A solution flow field 232 preferably having a number of open faced parallel tortuous channels 235 extend between the solution inlet 236 and the solution outlet 237. The solution inlet 236 and solution outlet 237 for chemical hydride solution communicate with the first and second solution connection ports 314, 315 respectively.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended) A reactor vessel, for generating hydrogen from a hydride solution in presence of a catalyst, the reactor vessel comprising:

~~a)~~ a plurality of reaction chambers and a plurality of coolant chambers alternating with one another, each reaction chamber being configured to receive the hydride solution and to bring at least a portion of the hydride solution in contact with the catalyst, each coolant chamber being configured to receive a coolant flow; and

~~b)~~ a plurality of reactor plates, each having a first face and a second face in opposing relation with the first face, wherein the first face defines a solution flow field and a portion of one reaction chamber, and the second face defines a coolant flow field and a portion of one coolant chamber;

~~c)~~ wherein each reactor plate ~~is rectangular, and~~ includes a solution inlet and a solution outlet located opposite to one another and in communication with the solution flow field, and a coolant inlet and a coolant outlet located opposite to one another and in communication with the coolant flow field and wherein the solution inlet, the solution outlet, the coolant inlet and the coolant outlet all extend through the reactor plates, for forming distribution ducts from a plurality of similar reactor plates stacked together;

~~d)~~ ~~and~~ wherein a plurality of separator plates alternate with the ~~reaction~~ reactor plates, to define the plurality of reaction chambers alternating with the plurality of coolant chambers, each reaction chamber being in fluid communication with an adjacent one of the plurality of reaction chambers and each coolant chamber being in fluid communication with an adjacent coolant chamber, each separator plate including openings providing inlets and outlets ~~to~~ for the coolant and the hydride solution aligned

with the ~~solution and coolant~~ and solution inlets and words of the reaction places whereby the distribution duct are formed extending through the reactor plates and the separator plates to distribute both the hydride solution and the coolant to the reaction and coolant chambers and to collect the hydride solution and the coolant from the reaction and the coolant chambers;

~~wherein each solution flow field comprises a common reaction chamber, and a plurality of channels opening into the common reaction chamber, wherein the catalyst is provided in the reaction chamber, and wherein a rim is provided around and partially defining the reaction chamber; and~~

~~wherein gasket grooves are provided between the reactor and separator plates, with one gasket groove being provided in the rim around each reaction chamber, and gaskets are provided in the gasket grooves between adjacent pairs of reactor and separator plates.~~

~~wherein each reactor plate includes gasket grooves on the first and second faces thereof, and a gasket is provided between each pair of adjacent reactor and separator plates, to form seals for the reaction and coolant chambers.~~

Claim 2 (cancelled)

Claim 3 (previously presented) The reactor vessel of claim 1, wherein the solution flow field comprises a plurality of solution channels therein and the coolant flow field comprises a plurality of coolant channels.

Claim 4 (original) The reactor vessel of claim 3, further comprising a catalyst located on at least a portion of the plurality of the solution channels.

Claim 5 (original) The reactor vessel of claim 4, wherein the catalyst is in pellet form.

Claim 6 (cancelled)

Claim 7 (previously presented) The reactor vessel of claim 3 wherein the plurality of the solution channels extend from the solution inlet to the solution outlet x and the plurality of coolant channels extend from the coolant inlet to the coolant outlet.

Claim 8 (previously presented) The reactor vessel of claim 7, wherein the reactor plates is rectangular the solution inlet and the solution outlet being located proximate to diagonal corners thereof, and the coolant inlet and coolant outlet being located proximate to remaining diagonal corners thereof.

Claim 9 (cancelled)

Claim 10 (cancelled)

Claim 11 (previously presented) The reactor vessel of claim7, wherein the reactor plates and the separator plates are positioned in substantially parallel spaced relationship, thereby forming a stack of the plurality of reactor vessels, and wherein means are provided for clamping the reactor plates and the separator plates together.

Claim 12 (currently amended) The reactor plate of claim11, wherein the solution channels are substantially parallel.

Claim 13 (original) The reactor plate of claim 12, wherein the coolant channels are substantially parallel.

Claim 14 (cancelled)

Claim 15 (cancelled)

Claim 16 (cancelled)

Claim 17 (cancelled)

Claim 18 (cancelled)

Claim 19 (cancelled)

Claim 33 (previously presented) The system of claim 32, wherein the coolant supply means is configured to control at least one of the temperature and the flow rate of the coolant flow through the coolant chamber, thereby improving control of the temperature of the hydride solution in the reaction chamber.

Claim 34 (cancelled)

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** CONTINUING DATA **********

** FOREIGN APPLICATIONS **********

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Foreign Priority claimed	STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
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35 USC 119 (a-d) conditions met ☐ yes ☐ no ☐ Met after Allowance

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AIR MAIL

1059

TITLE

CHEMICAL HYDRIDE HYDROGEN REACTOR AND GENERATION SYSTEM

FILING FEE RECEIVED	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:
1290	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit